



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/468,621	12/21/1999	PIERRE STEVENS	21026.09	3845
7590	03/10/2004			EXAMINER WU, ALLEN S
Pierre Stevens 21047 Escondido Way Boca Raton, FL 33433			ART UNIT 2135	PAPER NUMBER 8
			DATE MAILED: 03/10/2004	

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)
	09/468,621	STEVENS, PIERRE
	Examiner	Art Unit
	Allen S. Wu	2135

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

1) Responsive to communication(s) filed on 29 December 2003.

2a) This action is **FINAL**.                    2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

4) Claim(s) 1-21 is/are pending in the application.

4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.

5) Claim(s) \_\_\_\_\_ is/are allowed.

6) Claim(s) 1-21 is/are rejected.

7) Claim(s) \_\_\_\_\_ is/are objected to.

8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on 29 December 2003 is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) All    b) Some \* c) None of:

1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

1) Notice of References Cited (PTO-892)

2) Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.

4) Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.

5) Notice of Informal Patent Application (PTO-152)

6) Other: \_\_\_\_\_.

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-4, 7 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mark, US Patent 5,583,933, in view of Hersh, US Patent 5,386,479.

As per claim 1, Mark discloses a secure access card (auto-dialer, Abstract) comprising at least one tone generator for generating at least one tone signal that is variable in at least one of tone frequency, time duration of tone, time duration of space between tones, and by amplitude of tone (col 5 ln 30-35); tone generator (DTMF encoder/generator, col 8 ln 23-34) input means for accepting input from a user (device keys, col 8 ln 10-17 and microphone, col 8 ln 23-33); and a controller (microprocessor, col 8 ln 10-17), electrically coupled to the at least one tone generator (speaker, col 8 ln 23-33) and the input means (device keys, col 8 ln 10-17 and microphone, col 8 ln 23-33), for controlling the at least one tone generator to generate a tone sequence corresponding to the input from the user (DTMF signal, col 5 ln 25-57, PIN corresponding to input, col 57 ln 13-22, and voice transmitted via encoded DTMF, col 50 ln 55-63).

Mark further discloses at least one acoustic transducer (speaker col 8, In 34-55) comprising at least one acoustic transducer (speaker col 8, In 34-55) that substantially maximizes audio power output from at least one tone generator (DTMF generator produce tones of nominal frequency, col 24 In 24-40, auto calibration of the auto dialer, col 24 lines 63-67 and col 21 In 1-9). However, Mark does not teach a plurality of acoustic transducers that are mechanically tuned to oscillate about their mechanical resonant frequency. Hersh discloses a tone generator that comprises of a plurality of acoustic transducers that are mechanically tuned to oscillate about their mechanical resonant frequency (sound generator...transducers selected ... resonant frequency, col 2 In 6-25; see also col 2 In 56-66 and col 4 In 16-44). Mark discloses the importance of accurate and maximum power output from the transducer over a broad frequency range (col 23 In 59 – col 24 In 58). Both Mark and Hersh disclose a tone generator that is used for producing sound over a wide frequency range. Furthermore, Hersh discloses a method of producing maximum audio power output from a tone generator (wide band intense frequency response, col 2 In 6-25). It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to combine the teachings of Hersh within the system of Mark because it would have increased accuracy through a relatively wide band intense frequency response.

As per claim 2, Mark discloses a secure access card (auto-dialer, Abstract) wherein the at least one tone generator generates a tone sequence comprising at least one of dual tone multi frequency (DTMF) signals, FSK signals, MSK signals, and multi tone signals (DTMF or other types including FSK, col 1 ln 23-36 and col 66 ln 39-45). FSK and MSK are multi tone signals that are used for data transmission, like DTMF signals and are well known in the art. Mark specifically teaches the use of DTMF signals but suggests similar signals also apply. FSK signals, MSK signals and other multi tone signals similar DTMF signals are to be inherent to the invention disclosed by Mark), signals to identify the user as authorized user (information transmitted to the network by a series of encoded DTMF tones and is compared to authenticate the user, col 50 ln 55-67 and col 51 ln 1-4).

As per claim 3, Mark discloses at least one tone generator further comprises a controllable amplifier circuit (degree of amplification controlled by microprocessor, col 48 ln 33-50), the controller being electrically coupled to the controllable amplifier circuit and to the acoustic transducer to selectively control the controllable amplifier circuit (Lo-band and Hi-band tone signals are amplified separately...through amplitude control signals, col 19 ln 44-56; degree of amplification controlled by microprocessor, col 13 ln 33-50) and the acoustic transducer to generate the tone sequence corresponding to the input from the

user (DTMF signal, col 50 ln 56-63; placement of call with correct PIN, col 57 ln 3-23) .

As per claim 4, Mark discloses tone generator generates a tone sequence (DTMF signal, col 50 ln 56-63; placement of call with correct PIN, col 57 ln 3-23) that is delivered via a communication network interface (telephone, col 5 ln 51-59) comprising a telephone network interface for a publicly switched telephone network (PSTN) (telephone lines/system, col 5 ln 37-50; The auto-dialer is used for placing telephone calls through a publicly switched telephone network. Therefore a communication network interface comprising a telephone network interface for a publicly switched telephone network (PSTN) is to be inherent to the invention of Mark).

As per claim 7, Mark discloses memory for storing a representation of user input (RAM, col 8 ln 10-17; storage of a user's voice file, col 48 ln 33-50; PIN numbers and phrases, col 56 ln 39-52), and wherein the controller (microprocessor, col 8 ln 10-33) is electrically coupled to the memory and to the input means (microphone, col 8 ln 34-56) for monitoring the input means for user input and to store a representation of the user input in the memory (store voice identification or biometric information, col 50 ln 22-63) the controller controlling the at least one tone generator to generate a tone sequence corresponding to the stored representation of the user input (information transmitted to the network

or facility by a series of encoded tones, col 50 ln 45-55), the tone sequence for delivery via a communication network interface to a secure access server to determine whether the user input identifies the user as an authorized user of secure access function of a system (access control device, col 50 ln 22-63 and col 51 ln 1-5).

As per claim 21, Mark discloses a secure access card (auto-dialer, Abstract) comprising at least one tone generator for generating at least one tone signal that is variable in at least one of tone frequency, time duration of tone, time duration of space between tones, and by amplitude of tone (col 5 ln 30-35); tone generator (DTMF encoder/generator, col 8 ln 23-34) input means for accepting input from a user (device keys, col 8 ln 10-17 and microphone, col 8 ln 23-33); and a controller (microprocessor, col 8 ln 10-17), electrically coupled to the at least one tone generator (speaker, col 8 ln 23-33) and the input means (device keys, col 8 ln 10-17 and microphone, col 8 ln 23-33), for controlling the at least one tone generator to generate a tone sequence corresponding to the input from the user (DTMF signal, col 5 ln 25-57, PIN corresponding to input, col 57 ln 13-22, and voice transmitted via encoded DTMF, col 50 ln 55-63).

Mark further discloses at least one acoustic transducer (speaker col 8, ln 34-55) comprising at least one acoustic transducer (speaker col 8, ln 34-55) that substantially maximizes audio power output from at least one tone generator (DTMF generator produce tones of nominal frequency, col 24 ln 24-40, auto

calibration of the auto dialer, col 24 lines 63-67 and col 21 ln1-9). However, Mark does not teach at least one audio transducer that is mechanically tuned to oscillate about its mechanical resonant frequency. Hersh discloses a tone generator that comprises of a plurality of acoustic transducers that are mechanically tuned to oscillate about their mechanical resonant frequency (sound generator...transducers selected ... resonant frequency, col 2 ln 6-25; see also col 2 ln 56-66 and col 4 ln 16-44). Mark discloses the importance of accurate and maximum power output from the transducer over a broad frequency range (col 23 ln 59 – col 24 ln 58). Both Mark and Hersh disclose a tone generator that is used for producing sound over a wide frequency range. Furthermore, Hersh discloses a method of producing maximum audio power output from a tone generator (wide band intense frequency response, col 2 ln 6-25). It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to combine the teachings of Hersh within the system of Mark because it would have increased accuracy by providing a more intense audio signal.

3. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mark, US Paten 5,583,933, in view of Hersh, US Patent 5,386,479 as applied to claim 1 above, and further in view of Paterno, US Patent 5,636,271.

As per claim 5, Mark discloses memory for storing identification information (RAM, col 8 ln 10-17; storage of a user's voice file, col 48 ln 33-50; PIN numbers and phrases, col 56 ln 39-52), and wherein the controller (microprocessor, col 8 ln 10-33) is electrically coupled to the memory and to the input means (microphone, col 8 ln 34-56).

The combination of Mark and Hersh does not teach the controller to monitor the input means for user input and to determine whether the user input matches the stored identification information to permit the card to generate the tone sequence for delivery via the communication network interface. However, Paterno et al. discloses an access card that monitors PIN input to determine whether the user input matches the stored identification information to permit the card to generate the tone sequence (DTMF tone representation of PIN, col 1 ln 63-67 and col 2 ln 1-13) for delivery via the communication network interface (telephone; col 1 ln 63-67 and col 2 ln 1-13). It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to incorporate the teachings of Paterno et al within the combination of Mark and Hersh because it would have added an extra security to the authentication process of the card and user before the card is used with the access control device of the combination of Mark and Hersh.

4. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mark, US Paten 5,583,933, in view of Hersh, US Patent 5,386,479, further in view of Paterno et al,

US Patent 5,636,271 as applied to claim 5 above, and further in view of Fung et al, US Publication 2001/0052077.

As per claim 6, Mark discloses input means comprising at least one of a key input, a voice audio input, and a fingerprint input (capturing and converting voice data/biometric data and transferring converted digital data to auto-dialer, col 48 ln 10-43).

The combination of Mark and Hersh does not teach to determine whether the user input matches the stored identification information to permit the card to generate the tone sequence for delivery via the communication network interface. However, Paterno et al. discloses a access card that monitors PIN input to determine whether the user input matches the stored identification information to permit the card to generate the tone sequence (DTMF tone representation of PIN, col 1 ln 63-67 and col 2 ln 1-13) for delivery via the communication network interface (telephone; col 1 ln 63-67 and col 2 ln 1-13). It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to incorporate the teachings of Paterno et al within the system of Mark because it would have added an extra security to the authentication process of the card and user before the card is used with the access control device of the combination Mark and Hersh.

Furthermore, the combination of Mark, Hersh, and Paterno does not teach user the input means comprising of a signature identification method. However Fung et al. discloses an ID system, which authorizes user with biometric input,

including signature or other writing (col 5 section 0060). The secure access card uses the signature information of the user as authentication information to authorize the user to use the requested services. Fung et al teaches the use of biometric data, including written signature, to authenticate the user who is accessing downloaded content. The signature identification and other forms of identification have the same purpose of authenticating the user of the card. It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to combine the teachings of Fung et al within the combination of Mark, Hersh, and Paterno because it would have added another set of data to authenticate the user.

5. Claims 8 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mark, US Patent 5,583,933, in view of Hersh, US Patent 5,386,479 as applied to claim 7 above, and further in view of Fung et al, US Publication 2001/0052077.

As per claims 8 and 9, Mark discloses input means comprising at least one of a key input, a voice audio input, and a fingerprint input, to capture user input from a user of the secure access card and to store a representation of the user input in the memory (interfacing equipment ... accessing a record or group of records, which contain voice or other biometric details of the user col 55 ln 30-43; supply set of PIN numbers through keypad of telephone, col 57 ln 3-12), the controller controlling the at least one tone generator to generate a tone sequence corresponding to the stored representation of the user input for delivery via a

communication network interface to a secure access server to determine whether the user input identifies the user as an authorized user of secure access function of a system (information transmitted to the network of facility by a series of encoded DTMF tones, col 50 ln 55-67 and col 51 ln 1-4).

The combination of Mark and Hersh does not teach user the input means comprising of a signature identification method. However Fung et al. discloses an ID system, which authorizes user with biometric input, including signature or other writing (col 5 section 0060). The secure access card uses the signature information of the user as authentication information to authorize the user to use the requested services. Fung et al teaches the use of biometric data, including written signature, to authenticate the user who is accessing downloaded content. It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to combine the teachings of Fung et al within the combination of Mark and Hersh because it would have added another set of data to authenticate the user.

6. Claims 10-13, and 16-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mark, US Paten 5,583,933, in view of Hersh, US Patent 5,386,479, and further in view of Fung et al, US Publication 2001/0052077, in further view of Maes et al, US Patent 6,016,476.

As per claim 10, Mark discloses a communication network (telephone system, col 50 ln 22-27; network, col 50 ln 56-63); a secure application/function

server, electrically coupled to the communication network, for providing secured access functions to an authorized user across the communication network (access control device granting access to individual seeking access to the system the requested access, col 50 ln 45-55); a secure access server (comparator on the access control device, col 50 ln 28-63), electrically coupled to the communication network, for determining whether a user across the communication network is an authorized user (compare biometric identification received to a live sample, col 50 ln 45-55; place call based on correct PIN, col 57 ln 3-23) a network interface for coupling communication signaling between the communication network and the secure access server (telephone and microphone/speaker of access control device, col 50 ln); a tone signal processor electrically coupled to the network interface for receiving and processing communication signaling from the communication network (DTMF encoder/decoder and microphone/speaker, col 50 ln 28-44), the communication signaling comprising at least one tone signal in a tone sequence (encoded DTMF tones, col 50 ln 56-63); a database memory for storing authorized user identification information (interfacing equipment ... accessing a record or group of records, which contain voice or other biometric details of the user (col 55 ln 30-43) including for each authorized user at least one of a personal identification number (PIN), a voice identification information, a fingerprint identification information (biometric data, col 55 ln 30-43); a controller (microprocessor, col 50 ln 38-55), electrically coupled to the tone signal processor and the database

memory, for receiving communication signaling from the communication network (microphone/decoder coupled to microprocessor to receive biometric identification via the input device, col 50 ln 28-37), the communication signaling comprising at least one tone signal in a tone sequence representative of user identification information (voice information sent through encoded DTMF tones, col 50 ln 56-63). It is noted that the purpose of a secure application/function server is to provide the authorized user the requested application/functions. The access control device, which is disclosed by Mark, grants access to the requested system, functions after authorization of user. Therefore the secure application/function server is to be inherent to the operation performed by the access device control of Mark's invention.

Furthermore, Mark discloses a secure access card (auto-dialer, Abstract) at least one tone generator for generating at least one tone signal that is variable in at least one of tone frequency, time duration of tone, time duration of space between tones, and by amplitude of tone (col 5 ln 30-35); input means for accepting input from a user (device keys, col 8 ln 10-17 and microphone, col 8 ln 23-33); and a controller (microprocessor, col 8 ln 10-17), electrically coupled to the at least one tone generator (speaker, col 8 ln 23-33) and the input means (device keys, col 8 ln 10-17 and microphone, col 8 ln 23-33), for controlling the at least one tone generator to generate a tone sequence corresponding to the input from the user (DTMF signal, col 5 ln 25-57, PIN corresponding to input, col 57 ln 13-22, and voice transmitted via encoded DTMF, col 50 ln 55-63).

Mark further discloses at least one acoustic transducer (speaker col 8, ln 34-55) comprising at least one acoustic transducer (speaker col 8, ln 34-55) comprising at least one acoustic transducer (speaker col 8, ln 34-55) that substantially maximizes audio power output from at least one tone generator (DTMF generator produce tones of nominal frequency, col 24 ln 24-40, auto calibration of the auto dialer, col 24 lines 63-67 and col 21 ln 1-9). However, Mark does not teach a plurality of acoustic transducers that are mechanically tuned to oscillate about their mechanical resonant frequency. Hersh discloses a tone generator that comprises of a plurality of acoustic transducers that are mechanically tuned to oscillate about their mechanical resonant frequency (sound generator...transducers selected ... resonant frequency, col 2 ln 6-25; see also col 2 ln 56-66). Mark discloses the importance of accurate and maximum power output from the transducer over a broad frequency range (col 23 ln 59 – col 24 ln 58). Both Mark and Hersh disclose a tone generator that is used for producing sound over a wide frequency range. Furthermore, Hersh discloses a method of producing maximum audio power output from a tone generator (wide band intense frequency response, col 2 ln 6-25). It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to combine the teachings of Hersh within the system of Mark because it would have increased accuracy through a relatively wide band intense frequency response.

The combination of Mark and Hersh does not teach user identification information for each user stored in the database to include a signature identification method. However Fung et al. discloses an ID system, which authorizes user with biometric input, including signature or other writing (col 5 section 0060). The secure access card uses the signature information of the user as authentication information to authorize the user to use the requested services. Fung et al teaches the use of biometric data, including written signature, to authenticate the user who is accessing downloaded content. It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to combine the teachings of Fung et al within the combination of Mark because it would have added another set of data to authenticate the user.

Furthermore, the combination of Mark, Hersh, and Fung et al does not teach comparing the user identification information to the stored authorized user identification information to determine whether the user identification information received from across the communication network corresponds to an authorized user for accessing secured access functions provided by the secure application/function server to an authorized user across the communication network. However, Maes discloses a central server that processes user input and authenticates user based on information pre-stored on the server (col 7 ln 20-35 and col 8 ln 12-27). Using the central server to compare and store the authorized user identification information would allow for more memory to store

more information on different users, and would add an extra layer of security on top of the security of the access card. It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to combine the teachings of Maes et al within the combination of Mark, Hersh, and Fung et al so that the central server, disclosed by Maes et al, can communicate with the auto dialer, disclosed by Mark, because it would have added additional user security to functions accessed by the card.

As per claim 11, Mark discloses a secure access card (auto-dialer, Abstract) wherein the at least one tone generator generates a tone sequence comprising at least one of dual tone multi frequency (DTMF) signals (DTMF or other types including FSK, col 1 ln 23-36 and col 66 ln 39-45) and signals to identify the user as authorized user (information transmitted to the network by a series of encoded DTMF tones and is compared to authenticate the user, col 50 ln 55-67 and col 51 ln 1-4).

As per claim 12, Mark discloses at least one tone generator further comprises a controllable amplifier circuit (degree of amplification controlled by microprocessor, col 48 ln 33-50), the controller being electrically coupled to the controllable amplifier circuit and the acoustic transducer to selectively control the controllable amplifier circuit (Lo-band and Hi-band tone signals are amplified separately...through amplitude control signals, col 19 ln 44-56; degree of

amplification controlled by microprocessor, col 13 ln 33-50) and the acoustic transducer to generate the tone sequence corresponding to the input from the user (DTMF signal, col 50 ln 56-63; placement of call with correct PIN, col 57 ln 3-23) .

As per claim 13, Mark discloses tone generator generates a tone sequence (DTMF signal, col 50 ln 56-63; placement of call with correct PIN, col 57 ln 3-23) that is delivered via a communication network (telephone system, col 5 ln 37-50) comprising a telephone network interface for a publicly switched telephone network (PSTN) (telephone lines/system, col 5 ln 37-50; The auto-dialer is used for placing telephone calls through a publicly switched telephone network. Therefore, a communication network interface comprising a telephone network interface for a publicly switched telephone network (PSTN) is to be inherent to the invention of Mark).

As per claim 16, Mark discloses memory for storing a representation of user input (RAM, col 8 ln 10-17; storage of a user's voice file, col 48 ln 33-50; PIN numbers and phrases, col 56 ln 39-52), and wherein the controller (microprocessor, col 8 ln 10-33) is electrically coupled to the memory and to the input means (microphone, col 8 ln 34-56) for monitoring the input means for user input and to store a representation of the user input in the memory (store voice identification or biometric information, col 50 ln 22-63) the controller controlling

the at least one tone generator to generate a tone sequence corresponding to the stored representation of the user input (information transmitted to the network or facility by a series of encoded tones, col 50 ln 45-55), the tone sequence for delivery via a communication network interface to a secure access server to determine whether the user input identifies the user as an authorized user of secure access function of a system (access control device, col 50 ln 22-63 and col 51 ln 1-5).

As per claim 17, Mark discloses input means comprises at least one of a key input, a voice audio input, and a fingerprint input, to capture user input from a user of the secure access card and to store a representation of the user input in the memory (interfacing equipment ...accessing a record or group of records, which contain voice or other biometric details of the user col 55 ln 30-43; supply set of PIN numbers through keypad of telephone, col 57 ln 3-12), the controller controlling the at least one tone generator to generate a tone sequence corresponding to the stored representation of the user input for delivery via a communication network to a secure access server to determine whether the user input identifies the user as an authorized user of secure access function of a system (information transmitted to the network of facility by a series of encoded DTMF tones, col 50 ln 55-67 and col 51 ln 1-4).

The combination of Mark and Hersh does not teach user the input means comprising of a signature identification method. However Fung et al. discloses

an ID system, which authorizes user with biometric input, including signature or other writing (col 5 section 0060). The secure access card uses the signature information of the user as authentication information to authorize the user to use the requested services. Fung et al teaches the use of biometric data, including written signature, to authenticate the user who is accessing downloaded content. It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to combine the teachings of Fung et al within the system of Mark because it would have added another set of data to authenticate the user.

7. Claims 14 and 15 rejected under 35 U.S.C. 103(a) as being unpatentable over Mark, US Patent 5,583,933, in view of Hersh, US Patent 5,386,479, and further in view of Fung et al, US Publication 2001/0052077, in further view of Maes et al, US Patent 6,016,476 as applied to claim 10 above, and further in view of Paterno et al, US Patent 5,636,271.

As per claim 14 Mark discloses memory for storing identification information (RAM, col 8 ln 10-17; storage of a user's voice file, col 48 ln 33-50; PIN numbers and phrases, col 56 ln 39-52), and wherein the controller (microprocessor, col 8 ln 10-33) is electrically coupled to the to memory and to the input means (microphone, col 8 ln 34-56).

The combination of Mark, Hersh, Fung et al, and Maes et al does not teach the controller to monitor the input means for user input and to determine whether the user input matches the stored identification information to permit the

card to generate the tone sequence for delivery via the communication network interface. However, Paterno et al. discloses an access card that monitors PIN input to determine whether the user input matches the stored identification information to permit the card to generate the tone sequence (DTMF tone representation of PIN, col 1 ln 63-67 and col 2 ln 1-13) for delivery via the communication network interface (telephone; col 1 ln 63-67 and col 2 ln 1-13). To have the controller determine if user input matches user information, already stored in the card, would require a reprogramming of the controller. It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to incorporate the teachings of Paterno et al within the combination of Mark, Hersh, Fung et al, and Maes et al because it would have added an extra security to the authentication process of the card and user before the card is used with the access control device of Mark's invention.

As per claim 15, Mark discloses input means comprising of at least one of a key input, a voice audio input, and a fingerprint input, to capture user input from a user of the secure access card (capturing and converting voice data/biometric data and transferring converted digital data to auto-dialer, col 48 ln 10-43; supply set of PIN numbers through keypad of telephone, col 57 ln 3-12; It is noted that Mark does not disclose the card physically capable of capturing and converting the data digitally. However, Mark discloses a method of capturing the data from a central office and transferring a digital representation of the data to the card.

Both are different methods but result in the same outcome of voice and other biometric data being captured and stored in memory on the card).

The combination of Mark and Hersh does not teach user the input means comprising of a signature identification method. However Fung et al. discloses an ID system, which authorizes user with biometric input, including signature or other writing (col 5 section 0060). The secure access card uses the signature information of the user as authentication information to authorize the user to use the requested services. Fung et al teaches the use of biometric data, including written signature, to authenticate the user who is accessing downloaded content. It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to combine the teachings of Fung et al within the combination of Mark and Hersh because it would have added another set of data to authenticate the user and added extra security to the auto dialer Mark disclosed.

Furthermore, the combination of Mark, Hersh, Fung et al, and Maes et al does not teach the user input being compared to the stored identification information to permit the card to generate the tone sequence for delivery via the communication network interface. However, Paterno et al. discloses a access card that monitors PIN input to determine whether the user input matches the stored identification information to permit the card to generate the tone sequence (DTMF tone representation of PIN, col 1 ln 63-67 and col 2 ln 1-13) for delivery via the communication network interface (telephone; col 1 ln 63-67 and col 2 ln 1-

13). It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to incorporate the teachings of Paterno et al within the combination of Mark, Hersh, Fung et a, and Maes et all because it would have added an extra security to the authentication process of the card and user before the card is used with the access control device.

8. Claim 18 rejected under 35 U.S.C. 103(a) as being unpatentable over Mark, US Patent 5,583,933, in view of Hersh, US Patent 5,386,479, in view of Maes et al, US Patent 6,016,476.

As per claim 18, Mark discloses a communication system (telephone system, col 50 ln 23-27) comprising the steps of: capturing user input at a secure access card (storage of voice or other biometric information, col 50 ln 44-50; It is noted that storing the voice or biometric information on the access card requires a method of capturing such input. Therefore the capturing of user input is inherent to the teachings of Mark); storing a representation of the user input at the secure access card (storage of voice or other biometric information, col 50 ln 44-50); acoustically transmitting, by at least one tone generator in the device (col 5 ln 30-35), a tone sequence destined for reception across a communication network (encoded DTMF tones, col 50 ln 55-63), the tone sequence corresponding to the stored representation of the user input (voice identification information may be transmitted to the network/access control device by a series of encoded DTMF tones, col 50 ln 55-63); comprising at least one acoustic

transducer (speaker col 8, ln 34-55) that is mechanically tuned to oscillate about its mechanical resonant frequency to substantially maximize audio power output from at least one tone generator ( DTMF generator produce tones of nominal frequency, col 24 ln 24-40, auto calibration of the auto dialer, col 24 lines 63-67 and col 21 ln1-9; It is well known in the art that a generator that produces tones of nominal frequency, intensity, and duration is known to be oscillating at its mechanical resonant frequency);receiving from across the communication network a representation of the to transmitted tone sequence (microphone and DTMF decoder for receiving and decoding encoded DTMF tones, col 50 ln 28-36); comparing (compare the voice data to voice sample, col 50 ln 45-55)

Mark further discloses at least one acoustic transducer (speaker col 8, ln 34-55) comprising at least one acoustic transducer (speaker col 8, ln 34-55) comprising at least one acoustic transducer (speaker col 8, ln 34-55) that substantially maximizes audio power output from at least one tone generator (DTMF generator produce tones of nominal frequency, col 24 ln 24-40, auto calibration of the auto dialer, col 24 lines 63-67 and col 21 ln1-9). However, Mark does not teach explicitly teach the at least one transducer being mechanically tuned to oscillate about its mechanical resonant frequency. Hersh discloses a tone generator that comprises of a plurality of acoustic transducers that are mechanically tuned to oscillate about their mechanical resonant frequency (sound generator...transducers selected ... resonant frequency, col 2 ln 6-25; see also col 2 ln 56-66). Mark discloses the importance of accurate and

maximum power output from the transducer over a broad frequency range (col 23 ln 59 – col 24 ln 58). Both Mark and Hersh disclose a tone generator that is used for producing sound over a wide frequency range. Furthermore, Hersh discloses a method of producing maximum audio power output from a tone generator (wide band intense frequency response, col 2 ln 6-25). It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to combine the teachings of Hersh within the system of Mark because it would have increased accuracy through a relatively wide band intense frequency response.

The combination of Mark and Hersh does not teach comparing the received representation of the transmitted tone sequence to pre stored authorized user identification information; and determining whether a match between the representation of the transmitted tone sequence and a pre-stored authorized user identification information identifies the user is of the secure access device as an authorized user of the communication system. However, Maes et al discloses a central server that processes user input and authenticates user based on information pre-stored on the server and determines if the user is an authorized user of the communication system (col 7 ln 20-35 and col 8 ln 12-27). It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to combine the teachings of Maes et al within the combination of Mark and Hersh so that the central server, disclosed by Maes et al, can communicate with the auto dialer through tone signals, discloses by the

combination of Mark and Hersh, because it would have added additional user security to functions accessed by the card.

9. Claims 19 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mark, US Patent 5,583,933, in view of Hersh, US Patent 5,386,479 in view of Maes et al, US Patent 6,016,476 as applied to claim 18 above, and further in view of Fung et al, US Publication 2001/0052077.

As per claim 19, Mark discloses capturing at least one of a key input, a voice audio input, and a fingerprint input, to capture user input from a user of the secure access card (capturing and converting voice data/biometric data and transferring converted digital data to auto-dialer, col 48 ln 10-43; It is noted that Mark does not disclose the card physically capable of capturing and converting the data digitally. However, Mark discloses a method of capturing the data from a central office and transferring a digital representation of the data to the card. Both are different methods but result in the same outcome of voice and other biometric data being captured and stored in memory on the card. Therefore the method of capturing user input is inherent to the invention of Mark).

The combination of Mark, Hersh, and Maes et al does not teach user the input means comprising of a signature identification method. However Fung et al. discloses an ID system, which authorizes user with biometric input, including signature or other writing (col 5 section 0060). The secure access card uses the signature information of the user as authentication information to authorize the

user to use the requested services. Fung et al teaches the use of biometric data, including written signature, to authenticate the user who is accessing downloaded content. It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to combine the teachings of Fung et al within the combination of Mark, Hersh and Maes et al because it would have added another set of data to authenticate the user.

As per claim 20, Mark discloses a tone sequence (DTMF signal, col 5 In 25-57), comprising of a representation of the captured at least one of a key input, a voice audio input, and a fingerprint input from a user of the secure access card to identify the user thereof (PIN corresponding to input, col 57 In 13-22, and voice transmitted via encoded DTMF, col 50 In 55-63).

The combination of Mark, Hersh and Maes does not teach user the input means comprising of a signature identification method. However Fung et al. discloses an ID system, which authorizes user with biometric input, including signature or other writing (col 5 section 0060). The secure access card uses the signature information of the user as authentication information to authorize the user to use the requested services. Fung et al teaches the use of biometric data, including written signature, to authenticate the user who is accessing downloaded content. It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to combine the teachings of Fung et al

within the combination of Mark, Hersh, and Maes because it would have added another set of data to authenticate the user.

***Response to Arguments***

10. Applicant's arguments, see page 16, filed December 29, 2003, with respect to figures 4, 6, 11, 12, and 13 have been fully considered and are persuasive. The objection of figures 4, 6, 11, 12, and 13 has been withdrawn.

11. Applicant's arguments, see 17, filed December 29, 2003, with respect to claims 9, 16, and 19 have been fully considered and are persuasive. The objection of claims 9,16, and 19 has been withdrawn.

12. Applicant's arguments, see pages 18-20, filed December 29, 2003, with respect to the rejection(s)of claim(s) 1-4 and 7 under 35 U.S.C. 102(b) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of newly found prior art reference.

As per claim 1, the applicant remarks the Mark reference does not teach a transducer which is mechanically tuned to oscillate about their mechanical resonant frequency to substantially maximize audio power output from the at least one tone generator. Applicant further remarks that such "wide frequency band operation, to optimally cover audio generation, etc., with a single transducer, inherently does not operate at substantially the mechanical resonant frequency of transducer to maximize

its audio power output." Hersh discloses a sound generator that includes transducers tuned at its mechanical resonant frequency. Mark discloses a card with a sound generator and a transducer (speaker, col 8 ln 23-33). Hersh discloses a tone generator and a plurality of transducers (col 2 ln 56-66 and col 4 ln 16-44). Both Mark and Hersh discloses tone generators containing at least one acoustic transducer used for generating sound. The rejection under 35 U.S.C. 102(b) has been rewritten include the teachings of Hersh under 35 U.S.C 103(a).

As per claims 2-4 and 7, the rejection has been rewritten in to incorporate the teachings of Hersh.

13. Applicant's arguments, see 21-25, filed December 29, 2003, with respect to the rejection(s) of claim(s) 5-6, 8-9, 10-13, 16-17 and 18-20 under 35 U.S.C 103(a) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of newly found prior art reference.

The applicant remarks the Mark reference does not teach a transducer which is mechanically tuned to oscillate about their mechanical resonant frequency to substantially maximize audio power output from the at least one tone generator. Applicant further remarks that such "wide frequency band operation, to optimally cover audio generation, etc., with a single transducer, inherently does not operate at substantially the mechanical resonant frequency of transducer to maximize its audio power output." Hersh discloses a sound generator that includes transducers tuned at its

mechanical resonant frequency. Mark discloses a card with a sound generator and a transducer (speaker, col 8 ln 23-33). Hersh discloses a tone generator and a plurality of transducers (col 2 ln 56-66 and col 4 ln 16-44). Both Mark and Hersh discloses tone generators containing at least one acoustic transducer used for generating sound. The rejections under 35 U.S.C. 103(a) has been rewritten include the teachings of Hersh.

14. Applicant's arguments with respect to claim 21 have been considered but are moot in view of the new ground(s) of rejection.

The applicant remarks the Mark reference does not teach a transducer which is mechanically tuned to oscillate about their mechanical resonant frequency to substantially maximize audio power output from the at least one tone generator. Applicant further remarks that such "wide frequency band operation, to optimally cover audio generation, etc., with a single transducer, inherently does not operate at substantially the mechanical resonant frequency of transducer to maximize its audio power output." Hersh discloses a sound generator that includes transducers tuned at its mechanical resonant frequency. Mark discloses a card with a sound generator and a transducer (speaker, col 8 ln 23-33). Hersh discloses a tone generator and a plurality of transducers (col 2 ln 56-66 and col 4 ln 16-44). Both Mark and Hersh discloses tone generators containing at least one acoustic transducer used for generating sound. Therefore, claim 21 is unpatentable over Mark in view of Hersh.

***Conclusion***

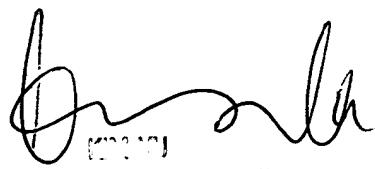
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Allen S. Wu whose telephone number is 703-305-0708. The examiner can normally be reached on Monday-Friday 9am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kim Vu can be reached on 703-305-4393. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Allen Wu  
Patent Examiner  
Art Unit 2135

ASW



Allen S. Wu  
SUPERVISORY PATENT EXAMINER  
TECHNICAL 42, COMPUTER ARTS